



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,553	02/26/2004	Leonardo Dalloro	249334US0X	3243
22850	7590	01/19/2006	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			JOHNSON, EDWARD M	
			ART UNIT	PAPER NUMBER
			1754	

DATE MAILED: 01/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/786,553

Applicant(s)

DALLORO ET AL.

Examiner

Edward M. Johnson

Art Unit

1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10 and 12-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17 is/are allowed.
- 6) ☒ Claim(s) 1-8, 10, 12-16 and 18-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1754

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-8, 10-13, 16, and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tabak '363 in view of Yan '854.

Applicant claims with respect to claims 9-11, wherein the temperature ranges from 225 to 400 C and the pressure is between 1 to 50 bar and wherein the pseudocumene comes directly from distillation.

Applicant claims a process for the synthesis of mesitylene, which comprises treating pseudocumene with a catalytic composition containing a zeolite, in acid or prevalently acid form, selected from ZSM-5 zeolite having a crystal lattice made up of silicon oxide and aluminum oxide, and ZSM-5 modified by the partial or total substitution of Si with a tetravalent element such as Ti or Ge and/or the partial or total

Art Unit: 1754

substitution of Al with other trivalent elements, such as Fe, Ga, or B.

Tabak et al. discloses a vapor phase isomerization process of methyl-substituted aromatic hydrocarbons improved by using a highly diluted zeolite catalyst, wherein the catalyst material is comprised of a crystalline aluminosilicate zeolite having a silica/alumina mole ratio greater than 12, in a reaction zone maintained under conditions such that isomerization is accomplished (see abstract). The zeolite is generally in the ZSM-5 type and Tabak et al. continues to disclose wherein the zeolite catalyst may also be substituted with Fe (col. 2, lines 41-47).

With respect to claim 6, Tabak et al. continues to disclose wherein the zeolite is combined with a binder material, which includes alumina, magnesia, zirconia, and silica (col. 9, lines 17-25). The proportion of the zeolite with respect to the binder may vary (col. 9, lines 26-32). The WHSV space -1 to 20 /hr (col. 9, lines 51-56). The reaction is carried velocity is maintained from 0.5 hr out in a fixed bed (col. 9, lines 48-50). Tabak et al. also discloses wherein the catalyst is used for treating pseudocumene (col. 10, lines 19-21).

Tabak et al. does not clearly disclose the limitations of claims 10 and 16.

Art Unit: 1754

Yan teaches a process for the production of pseudocumene and mesitylene. The process is carried out under catalytic upgrading conditions using a catalyst comprised of a crystalline zeolite having a silica-to-alumina ratio of at least 12, wherein the zeolite is preferably ZSM-5 (see abstract).

The reaction is carried out under a process at a temperature of 700 F and pressures of 15 to 2000 psig (col. 3, lines 21-25). Furthermore, Yan teaches wherein the pseudocumene comes directly from distillation, with respect to claim 16 (col. 2, lines 26-29).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the teachings of Tabak et al., based on the teachings of Yan, by maintaining a reaction condition wherein the temperature ranges from 225 to 400°C and the pressure is between 1 to 50 bar and wherein the pseudocumene comes directly from distillation, because Yan teaches a process for producing pseudocumene and mesitylene using a zeolite catalyst, wherein the reaction occurs at a temperature of 700°F and pressures of 15 to 2000 psig and wherein the pseudocumene comes directly from distillation.

Such modification would have been obvious to one of ordinary skill in the art, because one of ordinary skill in the art, would have expected a process for producing pseudocumene

Art Unit: 1754

using a zeolite catalyst as taught by Yan to have been similarly useful and applicable to a process for producing pseudocumene using a zeolite catalyst as taught by Tabak et al.

3. Claims 14-15 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tabak '363 in view of Kresge '566.

Applicant claims with respect to claims 14 and 15, wherein the pseudocumene is de-oxygenated by means of degassing with an inert gas or by boiling.

The teachings of Tabak et al. have been discussed with respect to claims 1-8, 12 and 13, but the reference is silent in regards to the limitations of claims 14 and 15.

However, Kresge et al. teaches a process for preparing short chain alkylaromatic compounds, which include treating pseudocumene and mesitylene (col. 3, lines 43-47) with an inert gas and then contacting the feedstream with a zeolite catalyst (col. 14, lines 46-51).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the teachings of Tabak et al., based on the teachings of Kresge et al., by de-oxygenating pseudocumene, before contact with a zeolite catalyst, with the help of an inert gas. Such modification would have been obvious to one of ordinary skill in the art, because one of ordinary skill in the art, would have expected a process for producing

Art Unit: 1754

pseudocumene as taught by Kresge et al., to have been similarly useful and applicable to a process for producing pseudocumene as taught by Tabak et al.

Allowable Subject Matter

4. Claim 17 is allowed.

Response to Arguments

5. Applicant's arguments filed 11/17/05 have been fully considered but they are not persuasive.

It is argued that in particular, Tabak relates to... hydrocarbon feeds. This is not persuasive because Applicant claims a process using open language "comprising", which does not exclude a vapor phase. It is noted that the features upon which applicant relies (i.e., a process wherein no vapor is present) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

It is argued that Yan fails to make up for that lacking in Tabak. This is not persuasive because Yan discloses that the pseudocumene "comes directly from distillation", which involves both liquid and vapor phases. Thus, the prior art process involves both liquid and vapor phases.

Art Unit: 1754

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

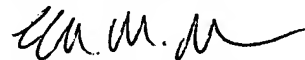
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward M. Johnson whose telephone number is 571-272-1352. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman

Art Unit: 1754

can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Edward M. Johnson
Primary Examiner
Art Unit 1754

EMJ